



## EFFECT OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE OF STAFF NURSES REGARDING PREVENTION OF *CLOSTRIDIUM DIFFICILE* INFECTION IN A TERTIARY CARE HOSPITAL

<b>Miss Sara Scaria</b>	Msc Nursing Student MOSC College of Nursing Kolenchery (p.o) Ernakulam 682311
<b>Mrs Susan Mathai</b>	Associate Profesor MOSC College of Nursing Kolenchery (p.o) Ernakulam 682311
<b>Dr Sheela Shenai N.A*</b>	PhD Principal MOSC College of Nursing Kolenchery (P.O) Ernakulam(Dist) 682311 *Corresponding Author

**ABSTRACT** *Clostridium difficile* is a gram-positive, spore-forming anaerobic bacteria. A quantitative pre experimental one group pre-test post-test design was used to collect data from 70 subjects by sample of convenience. Data were collected by using demographic data sheet and Structured knowledge questionnaire. Intervention of structured teaching programme was given immediately after pre-test. Post-test was done 14 days after the intervention. Analysis was done by descriptive and inferential statistics. The mean pre-test knowledge score was 8.2 and the mean post test knowledge score was 22.3 after the intervention. The study concluded that structured teaching programme was effective in enhancing the knowledge of staff nurse.

**KEYWORDS :** *Clostridium difficile*, knowledge, structured teaching programme, staff nurses

### INTRODUCTION

*Clostridium difficile* is a gram-positive, spore-forming anaerobic bacteria. *Clostridium difficile* is now considered to be one of the most important causes of health care-associated infections. *Clostridium difficile* infections are also emerging in the community and in animals which are used for food. They are no longer viewed simply as an unpleasant complications that follow antibiotic therapy. The prevalence of *Clostridium difficile* infection has shown a great hike since 2001, which has led to increased research interest and the discovery of new virulence factors. Now it has expanded and focused on the development of new treatment and prevention regimens<sup>1</sup>. Nurses play a key role in infection prevention, health, and the well being of their patients and the financial health of their employers. Indian studies have reported that *Clostridium difficile*-associated diarrhea (CDAD) prevalence rate ranges from 7.1% to 26.6% and its incidence varies considerably from place to place<sup>2</sup>.

The objectives of the study were as follows -

- To assess the knowledge score of staff nurses regarding the prevention of *Clostridium difficile* infection.
- To evaluate the effect of structured teaching programme on knowledge of staff nurses regarding the prevention of *Clostridium difficile* infection.

### METHODOLOGY

A quantitative pre-experimental one group pre-test post-test study was adopted as study design. The subjects were the staff nurses working in all clinical areas of M.O.S.C Medical College Hospital, Kolenchery. Ethical clearance was obtained from the Institutional Ethics Committee. 70 subjects are selected using sample of convenience. Formal written consent was obtained from subjects. Data were collected using demographic data sheet and structured knowledge questionnaire. Demographic data sheet consisted of structured questionnaire on socio-personal and professional data. The content validity index was calculated as 0.8. The reliability coefficient was 0.75 and was calculated by using Cronbach alpha. A structured questionnaire which consisted of 28 multiple choice questions was used for the assessment of knowledge regarding prevention of *Clostridium difficile* infection. After the completion of pre-test, intervention of structured teaching programme was given to all subjects for about 45 minutes and was implemented as a group approach. Post-test assessment was done 14 days after structured teaching programme.

### RESULTS

Data were analysed by descriptive and inferential statistics using Microsoft excel and R software.

#### Distribution of socio-personal and professional characteristics

Among 70 respondents, most (98.6%) of the subjects were females

and males (1.4%). About 94.3% of subjects were having no previous knowledge regarding the topic. 50% of study subjects were working in medical surgical ward and the remaining were working in medical surgical ICU.

**Table 1- Frequency and percentage distribution of pre-test and post-test level of knowledge.**

Level of knowledge	Pre-test		Post-test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor (0-9)	68	97.1	0	0
Average (10-18)	2	2.9	22	31.4
Good (19-28)	0	0	48	68.6

Among 70 study participants majority of subjects had poor knowledge (97.1%) and only 2.9% had average knowledge score. After the intervention majority of the study participants (68.6%) were having good knowledge and only 31.4% were having average knowledge regarding prevention of *Clostridium difficile* infection.

**Table 2 : Mean, Standard Deviation and t - Test Score and Value of Knowledge Score.**

Knowledge	Mean	Standard Deviation (SD)	t test	p value
Pre-test knowledge	8.2	3.0	-30.9	p<0.001
Post-test knowledge	22.3	2.3		

P<0.05 –significant

Paired t –test was used to find the significant difference between pre-test and post-test knowledge score. There is a statistical difference in the mean knowledge score regarding prevention of *Clostridium difficile* infection after the intervention (p<0.05) Hence the intervention is found to be effective.

### DISCUSSION

From the pre-test knowledge score it was inferred that among 70 study participants, majority had poor knowledge (97.1%) and only 2.9% had average knowledge regarding prevention of *Clostridium difficile* infection. A study conducted in Ludhiana among 100 staff nurses to understand the knowledge regarding *Clostridium difficile* infection revealed that about 2% had excellent knowledge, 24% had good knowledge, 63% had average knowledge and only 11% had below average knowledge<sup>3</sup>.

The reason for poor pre-test knowledge in the present study may be due to the fact that the majority of the subjects (94.3%) had no previous knowledge or experiences in caring patients with *Clostridium difficile* infection. Attending more continuing nursing education programs

regarding *Clostridium difficile* infection will increase the knowledge level of staff nurses.

From the study, it was observed that the mean of post-test knowledge was higher than the mean of pre-test knowledge score. There is a statistical difference in the average knowledge regarding prevention of *Clostridium difficile* infection after the intervention ( $p < 0.05$ ). Hence the structured teaching programme regarding prevention of *Clostridium difficile* infection is found to be effective. A study was conducted in United States to evaluate the effect of bundled intervention on prevention of hospital acquired *Clostridium difficile* infection revealed that there was significant difference in the knowledge level of staff nurses and the hand hygiene compliance after the intervention and hence the intervention was found to be effective<sup>4</sup>.

## CONCLUSION

The findings of the research study can be utilized for early recognition and adequate management to prevent the crippling complications of *Clostridium difficile* infection.

The study signifies the need of continuing education. Hence there is an exigent need for assessing the knowledge level of staff nurses regarding prevention of *Clostridium difficile* infection.

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